

21" Self-Propelled Rotary Mower

Operating Manual

Model No. TMO-37448A

Montgomery Ward

The logo for Montgomery Ward, featuring a solid black rectangular bar.

INDEX

Slope Gauge	3
Contents of Hardware Pack	4
Safe Operation Practices	5
Assembly	6
Controls	11
Operation	11
Adjustments	13
Lubrication	14
Maintenance	14
Off-Season Storage	16
Trouble Shooting	17
Illustrated Parts	18, 21
Repair Parts List	19-21
Parts Information	Back Cover

Dear Customer,

So often throughout the year we are all in a rush to meet our daily obligations.

However, we at Montgomery Ward are taking a quick moment out to say...

"Thank you for your business."

Sincerely,
MONTGOMERY WARD



INSTRUCTIONS GIVEN WITH THIS SYMBOL ARE FOR PERSONAL SAFETY. BE SURE TO FOLLOW THEM.

NOTICE: A data plate with the model number and serial numbers of your unit is located on the top rear of the deck. Record these numbers in the spaces provided on the back cover of this guide.

BEFORE YOU CALL SERVICE

Check Spark Plug Wire

- Firmly attached?
- Wire terminal clean?

Check Crankcase Oil Level

- Overfilled/underfilled?

Check Fuel Tank

- Fuel in tank?
- Fuel dirty or stale?
- If tank has been empty for a long period, fill tank completely.

Check Air Cleaner

- Clean?
- Choke plate stuck?
- Governor spring free to move?

Check Under Blade Housing (Disconnect Spark Plug First)

- Blade obstructed or bent?

Check Starting Instructions

- Read instruction manuals and labels for specific instructions.

WARNING: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

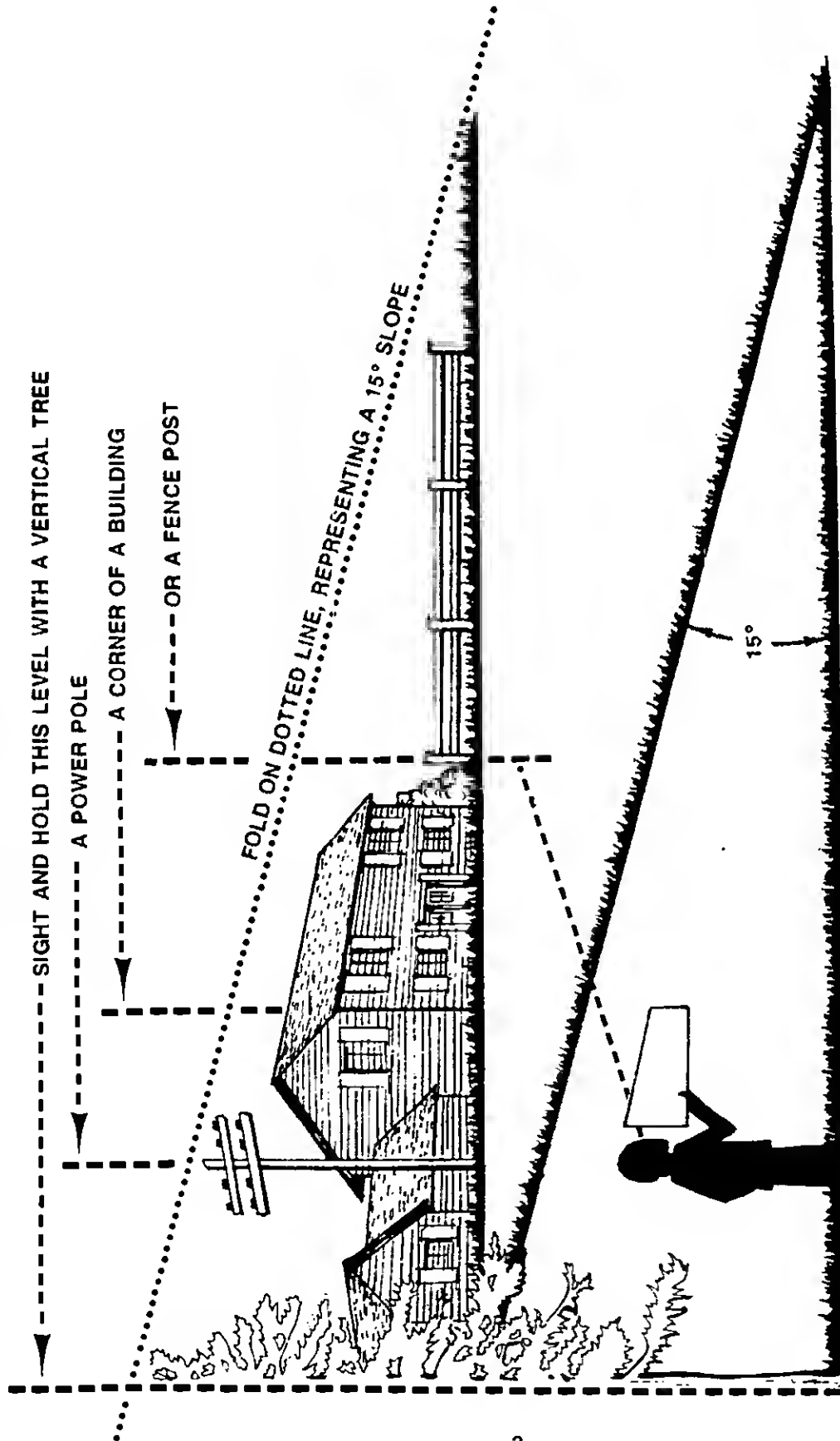
In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester muffler is available at your nearest engine authorized service center.

SLOPE GAUGE

(Keep this sheet in a safe place for future reference.)

Cut Along This Line

USE THIS SHEET AS A GUIDE TO DETERMINE SLOPES WHERE YOU MAY NOT OPERATE SAFELY.



Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2½ feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury.

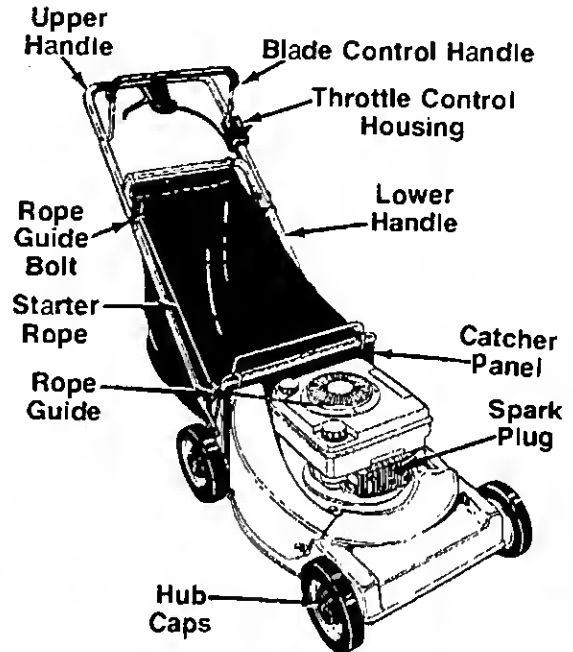
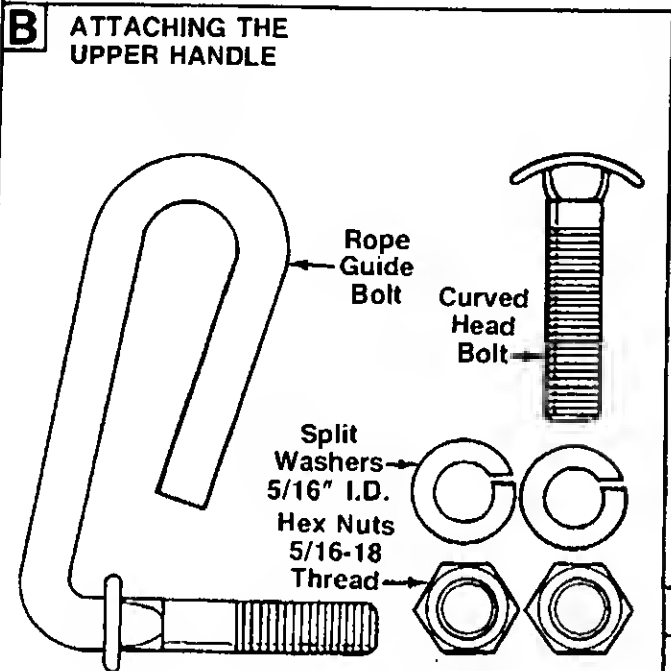
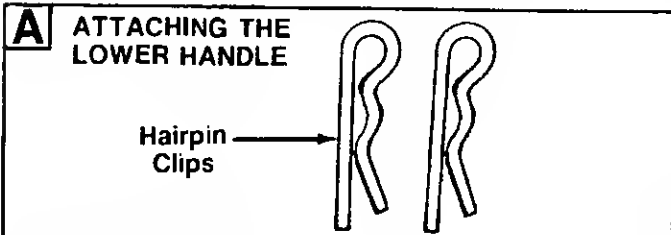
Operate RIDING mowers up and down slopes, never across the face of slopes.

Operate WALK-BEHIND mowers across the face of slopes, never up and down slopes.

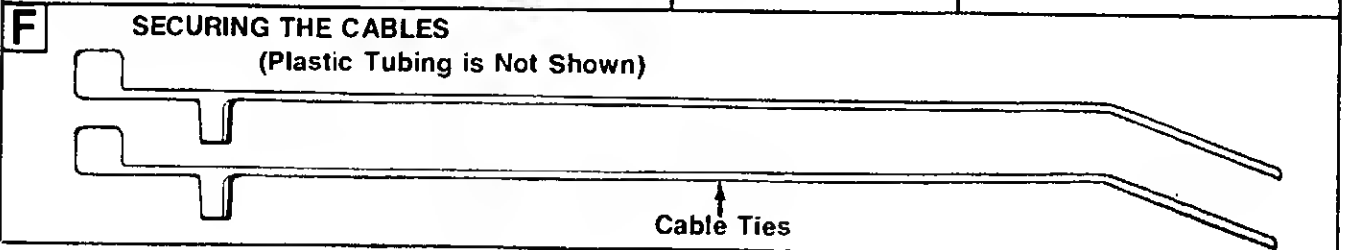
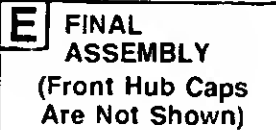
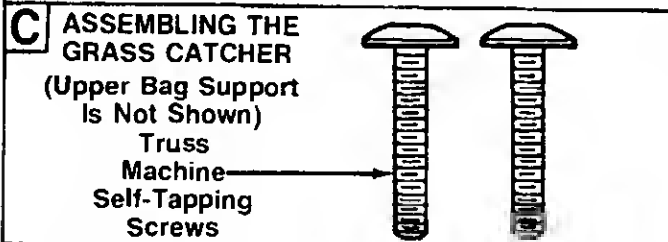
CONTENTS OF HARDWARE PACK

Remove this sheet from your owner's manual and lay the hardware on the illustration for identification purposes. After assembly, keep the Slope Gauge which is on the reverse side of this sheet for future use.

(Hardware pack may contain extra items which are not used on your unit.)




PARTS IDENTIFICATION



IMPORTANT

RULES FOR SAFE OPERATION



THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR LAWN MOWER. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY. WHEN YOU SEE THIS SYMBOL— HEED ITS WARNING.



DANGER

Your lawn mower was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. If you violate any of these rules, you may cause serious injury to yourself or others.



TRAINING

1. Read this owner's manual carefully in its entirety before attempting to assemble or operate this machine. Be completely familiar with the controls and the proper use of this machine before operating it. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Your rotary mower is a precision piece of power equipment, not a plaything. Therefore, exercise extreme caution at all times.
3. Never allow children to operate a power mower. Only persons well acquainted with these rules of safe operation should be allowed to use your mower.
4. Keep the area of operation clear of all persons, particularly small children and pets. Stop engine when they are in the vicinity of your mower to help prevent blade contact or thrown object injury. Although the area of operation should be completely cleared of foreign objects, an object may have been overlooked and could be accidentally thrown by the mower in any direction and cause serious personal injury to the operator or any others allowed in the area.



PREPARATION

1. Thoroughly inspect the area where the equipment is to be used. Remove all stones, sticks, wire, bones and other foreign objects which could be picked up and thrown by the mower in any direction and cause serious personal injury to the operator or any others allowed in the area.
2. Always wear safety glasses or eye shields during operation or while performing an adjustment or repair, to protect eyes from foreign objects that may be thrown from the machine in any direction.
3. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts to avoid entanglement in the moving parts. Never operate a unit in bare feet, sandals, or sneakers.
4. Check the fuel before starting the engine. Gasoline is an extremely flammable fuel. Do not fill the gasoline tank indoors, while the engine is running, or until engine has been allowed to cool for two minutes after running. Replace gasoline cap securely and wipe off any spilled gasoline before starting the engine as it may cause a fire or explosion.
5. Disengage the self-propelled mechanism or drive clutch on units so equipped before starting the engine.
6. The blade control handle is a safety device. Never attempt to bypass its operation. Doing so makes the safety device inoperative and may result in personal injury through contact with the rotating blade. The blade control handle must operate easily in both directions.
7. Never attempt to make a wheel or cutting height adjustment while the engine is running.
8. Never operate the equipment in wet grass. Always be sure of your footing. A slip and fall can cause serious personal injury. Keep a firm hold on the handle and walk, never run. Mow only in daylight or in good artificial light.

9. For your safety, use the slope gauge included as part of this manual to measure slopes before operating this unit on a sloped or hilly area. If the slope is greater than 15° as shown on the slope gauge, do not operate this unit on that area or serious injury could result.



OPERATION

1. Do not change the engine governor settings or overspeed the engine. Excessive engine speeds are dangerous.
2. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times as the rotating blade can cause injury.
3. Stop the blade when crossing gravel drives, walks or roads.
4. After striking a foreign object, stop the engine, remove the wire from the spark plug, and thoroughly inspect the mower for any damage. Repair the damage before restarting and operating the mower.
5. If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
6. Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher or unclogging the chute. The cutting blade continues to rotate for a few seconds after the engine is shut off. Never place any part of the body in the blade area until you are sure the blade has stopped rotating.
7. Before cleaning, repairing or inspecting, make certain the blade and all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the spark plug to prevent accidental starting.
8. Do not run the engine indoors.
9. Mow across the face of slopes, never up-and-down. Exercise extreme caution when changing direction on slopes. Do not mow excessively steep slopes. Always be sure of your footing. A slip and fall can cause serious personal injury.
10. Never operate mower without proper guards, plates or other safety protective devices in place.
11. Do not operate this mower with the chute door open, unless the complete grass catcher is properly mounted on the mower.



MAINTENANCE AND STORAGE

1. Check the blade and engine mounting bolts at frequent intervals for proper tightness.
2. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
3. Never store the equipment with gasoline in the tank inside of a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.
4. To reduce fire hazard, keep the engine free of grass, leaves, or excessive grease.
5. Check the grass catcher bag frequently for wear or deterioration. For safety protection, replace only with new bag meeting original equipment specifications.

IMPORTANT: This unit is shipped **WITHOUT GASOLINE** or **OIL**. After assembly, service engine with gasoline and oil as instructed in the separate engine manual packed with your unit.

NOTE: Reference to right or left hand side of the mower is observed from the operating position. Refer to parts identification on page 4 for location of parts when assembling the mower.

ASSEMBLY INSTRUCTIONS

Tools Required for Assembly

- (1) Pair of Pliers
- (1) Phillips Screwdriver
- (1) 1/2" Wrench*
- (1) 5/16" Wrench or Nutdriver*
- (1) 7/16" Wrench*

*Or one 6" Adjustable Wrench.

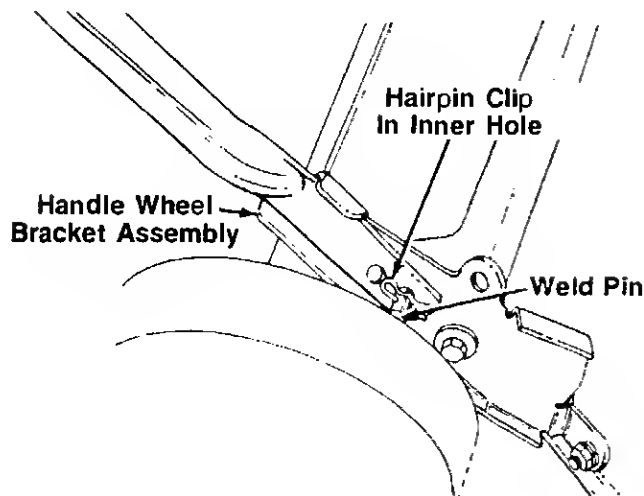


FIGURE 1.

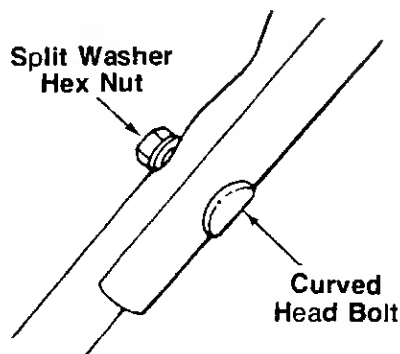


FIGURE 2.

UNPACKING

1. Remove the lawn mower from the carton by opening the top flaps and lifting the unit out. Be careful of the staples. Make certain all parts and literature have been removed from the carton before the carton is discarded.
2. Disconnect and ground the spark plug wire by hooking it into the "V" slot on the engine. Check beneath the deck for any cardboard packaging. Remove if present.
3. Stretch out all control cables and place on the floor. Be careful not to bend or kink the cables at any time during assembly.
4. Remove page four from this manual and lay the contents of the hardware pack on the illustration for identification.

ATTACHING THE LOWER HANDLE (Hardware A)

1. For shipping purposes your mower is set with the wheels in the lowest cutting height position. Raise the mower to the highest setting for assembly of lower handle.
2. Attach the lower handle by placing the bottom holes in the lower handle over the weld pins on the handle wheel bracket assemblies on the rear of the deck. Make certain the instruction label on the lower handle can be read from the operating position.
3. Using a pair of pliers, squeeze one leg of the lower handle against the handle mounting bracket. Insert the hairpin clip into the inner hole on the weld pin. See figure 1. Repeat on other side.

ATTACHING THE UPPER HANDLE (Hardware B)

1. Place the upper handle in position over the lower handle. The label on the throttle control housing and the control lever must be facing up.
2. Secure the left hand side of upper handle using the curved head bolt, split washer and hex nut as shown in figure 2.

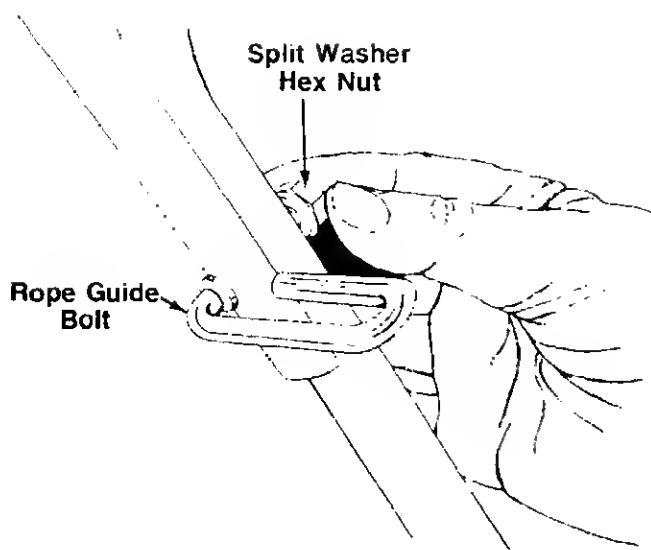


FIGURE 3.

3. Insert the rope guide bolt through the right hand side of upper and lower handle. See figure 3. Secure with split washer and hex nut, finger tight only.

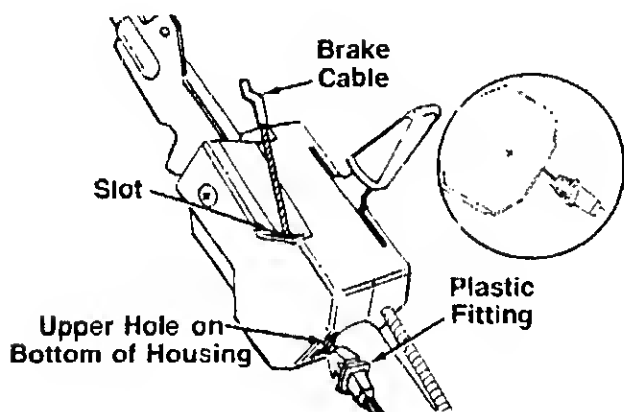


FIGURE 4.

ATTACHING THE BRAKE CABLE

1. The brake cable is attached to the engine, and has a "Z" fitting on the loose end. Route the brake cable below the lower handle. Place end of cable into the upper hole on the bottom of the control housing, and through the slot as shown. The angle of the plastic flange must be positioned downward as shown in figure 4. Be careful not to bend or kink the cable at any time.
2. Push the plastic fitting until it locks into the control housing.



WARNING

Brake cable must be assembled as shown for proper blade brake operation.

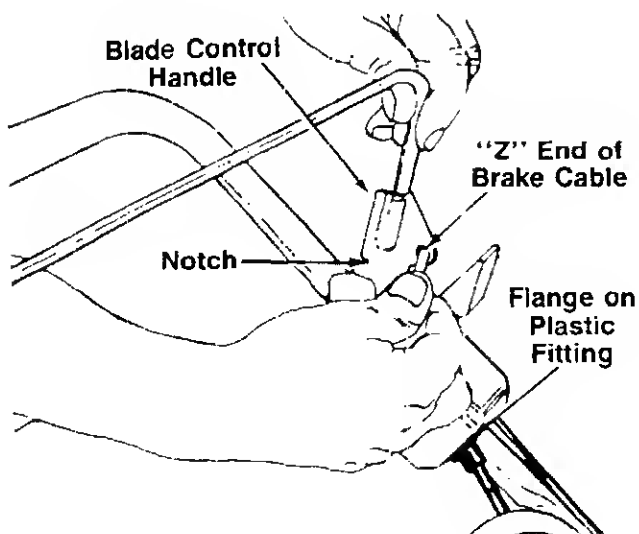


FIGURE 5.

3. Hook the "Z" end of the brake cable into the hole in the blade control handle from the inside to the outside as shown in figure 5. If additional slack is needed in order to hook the cable into the handle, proceed as follows.
 - a. Hook the "Z" end of the cable into notch provided in the blade control handle. See figure 5.
 - b. Squeeze blade control handle against upper handle.
 - c. Release the blade control handle, unhook the cable from the notch and hook it into the hole in the blade control handle.

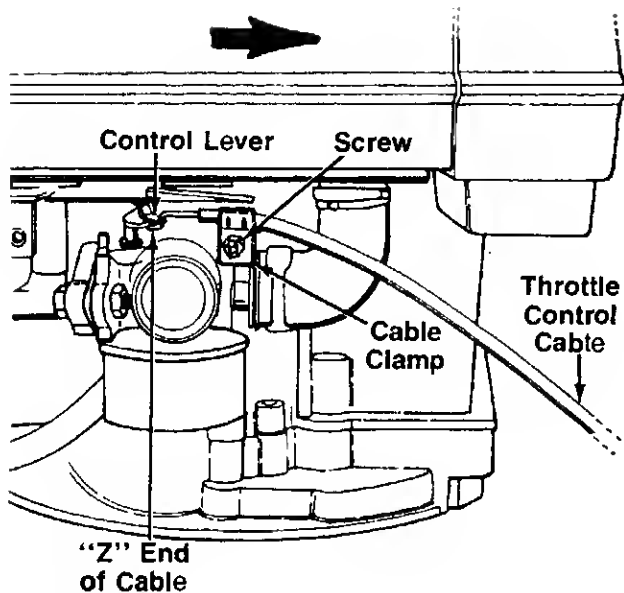


FIGURE 6.

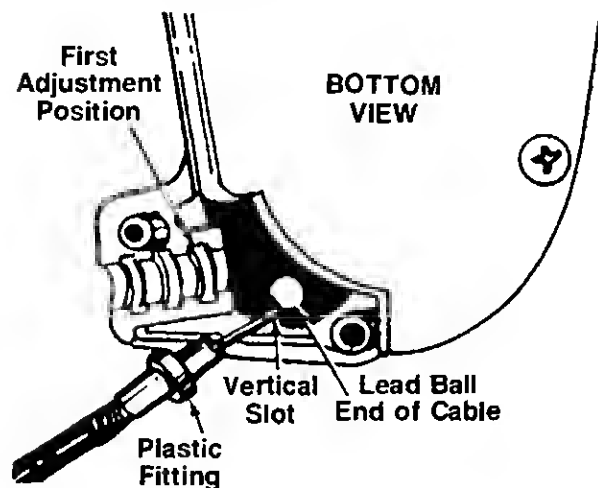


FIGURE 7.

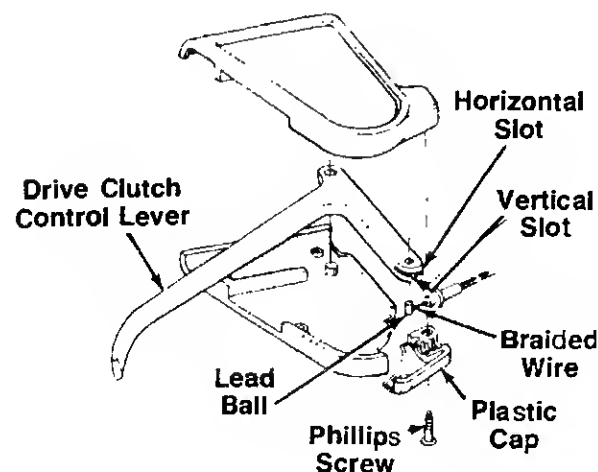


FIGURE 8.

ATTACHING THE THROTTLE CABLE

1. Place the throttle control lever on the handle in FAST position.
2. The throttle control cable is attached to the upper handle. Route the throttle control cable under the lower handle, inside the handle mounting bracket and underneath the catcher panel. Hook the "Z" end of the throttle control cable into the hole in the control lever on the engine. See figure 6.
3. Loosen (do not remove) the screw on the cable clamp shown in figure 6. Slip the control casing under the clamp (cable must move freely beneath the clamp).
4. Place the control lever on the engine in the full open position by pushing it as far toward the rear of the unit as it will go. Tighten the screw on the cable clamp to secure the cable in this position.

ATTACHING THE DRIVE CLUTCH CONTROL CABLE (Hardware D)

The drive clutch control cable is attached to the deck. Attach the cable to the lever in the clutch control housing, located in the middle of the upper handle, as follows.

1. Place the lead ball end of the cable into the fitting provided in the end of the clutch control lever. Slip the braided wire into the vertical slot as shown in figure 7.
2. Slide the braided wire around in the horizontal slot. See figure 8.
3. Place the plastic fitting on the control cable into the first adjustment position in the clutch control housing. See figure 7.
4. Secure the plastic cap to the clutch control housing using the two Phillips head screws. See figure 8.



WARNING

Drive clutch adjustment must be checked before the unit is operated, as described in the operation section.

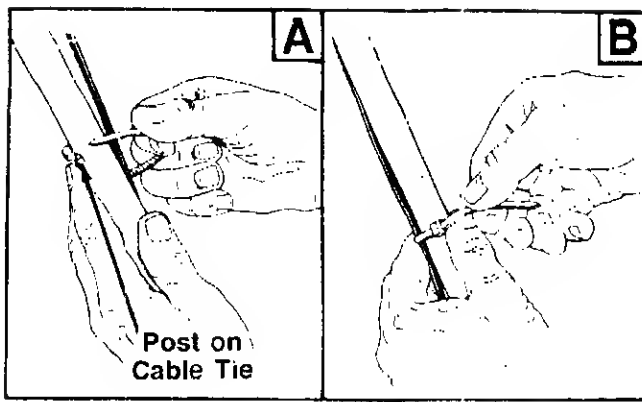


FIGURE 9.

SECURING THE CABLES (Hardware F)

Secure all control cables to the left side of the handle as follows.

- Open one end of the plastic tubing provided. Place the control cables inside, starting at one end and working them inside the tubing.
- Insert posts on cable ties into holes provided on the lower handle, one near the top and one near the bottom of lower handle. The holes may be on either the inside or outside of the handle. See figure 9A.
- Secure the plastic tubing with the cable ties. See figure 9B.
- Trim excess ends of cable ties.

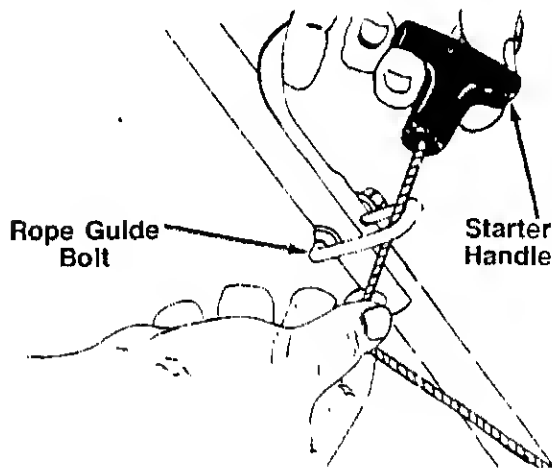


FIGURE 10.

ATTACHING THE STARTER ROPE

- The starter rope is inside the top of the engine. The starter rope may be already attached to the rope guide at the catcher panel. Additional rope may be wound around the starter handle. If so, unwind the rope from the handle.
- With the spark plug wire disconnected and grounded, depress the blade control handle and pull the rope out of the engine.
- Slip the starter rope into the rope guide bolt as shown in figure 10.
- Tighten the hex nut on the rope guide bolt securely.

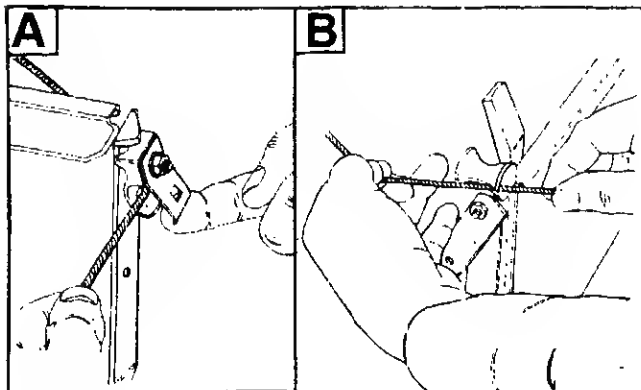


FIGURE 11.

- If not already assembled, slip the starter rope under the rope guide clip or into the rope guide as shown in figure 11A or 11B.

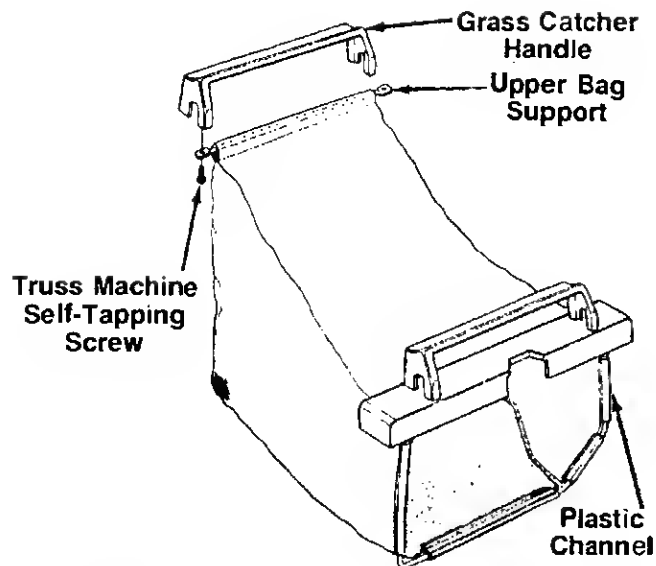


FIGURE 12.

ASSEMBLY OF GRASS CATCHER (Hardware C)

1. Place bag over frame (black plastic side is the bottom of bag). Handle on frame goes to the top of bag. Notch in frame goes toward the front. See figure 12.
2. Secure bag to frame by slipping plastic channels on bag over frame. See figure 12.
3. Insert the upper bag support into the pocket on the rear of the bag. Place grass catcher handle on top of grass catcher support as shown in figure 12. The handle should hook toward the rear of the bag as shown in figure 12. Secure with two truss machine self-tapping screws.

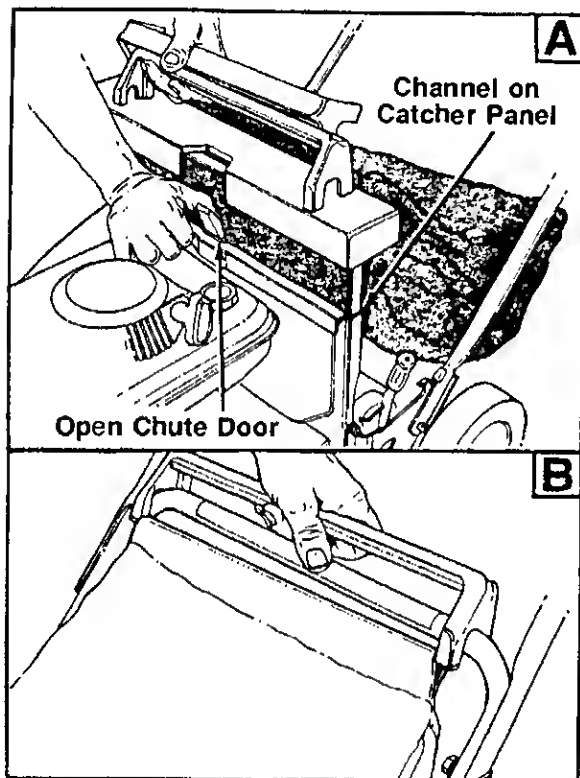


FIGURE 13.

TO ATTACH BAG TO MOWER



WARNING

DO NOT operate the mower with the chute door open unless the complete grass catcher is properly mounted on the mower.

1. Hold the chute door on the catcher panel open as shown in figure 13A.
2. Slide the frame of the grass catcher down into the channels on the catcher panel. The top portion of the frame goes over the catcher panel.
3. Hook the handle on the rear of the grass catcher over the lower handle of the mower. See figure 13B.

To remove the grass catcher, unhook the rear handle and lift the grass catcher straight up.

TO CONVERT MOWER TO SIDE DISCHARGE

To convert your mower to a side discharge unit, remove only the grass bag and top discharge chute. If is not necessary to remove the catcher panel and brackets. To remove the top discharge chute, proceed as follows.

See figures 14 and 15.

1. Remove the wing nuts and flat washers on the side of the deck.
2. Lift up on the front edge of the discharge chute, then slide it toward the side, removing it from the bolts in the side of the deck.
3. Attach the side chute deflector by first placing it over the rear bolt in the side of the deck, then over the front bolt and sliding it into position, with shoulder bolt on deck in notch on deflector. Secure with flat washers and wing nuts.

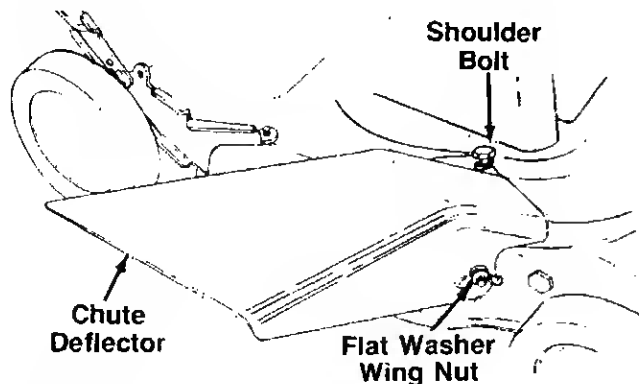


FIGURE 14.

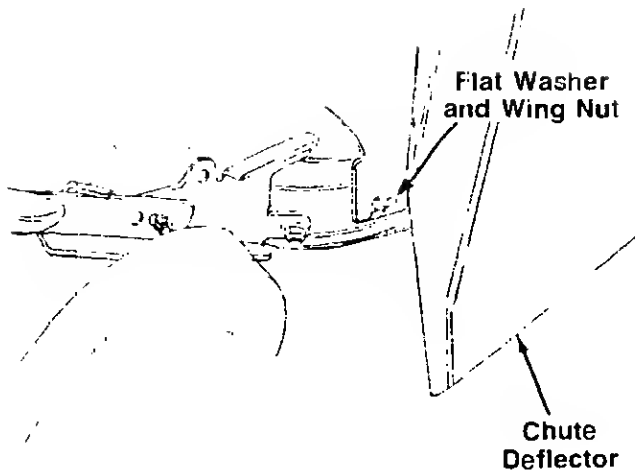


FIGURE 15.



WARNING

Never operate your unit without either the side chute deflector or entire top discharge chute and catcher panel assembly in place.

FINAL ASSEMBLY OF MOWER (Hardware E)

1. Attach hub caps to the front wheels by lining up the four tabs on the hub caps with the four holes in the wheels. Push to lock in position.
2. Make certain all nuts and bolts are tightened securely.

CONTROLS

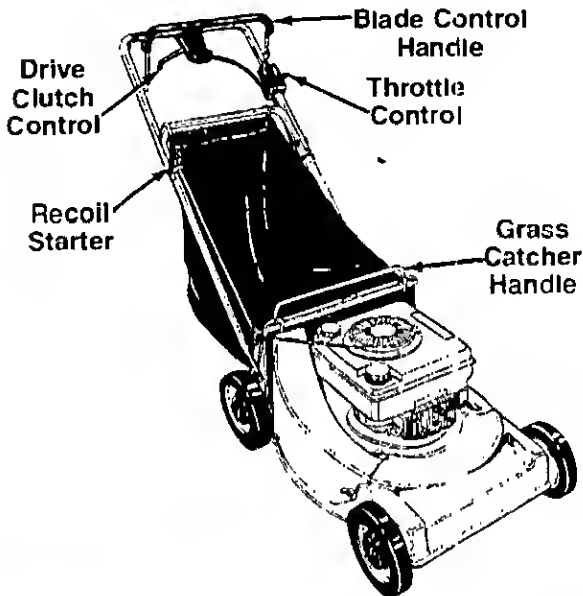


FIGURE 16.

BLADE CONTROL HANDLE

WARNING

THIS CONTROL MECHANISM IS A SAFETY DEVICE NEVER ATTEMPT TO BYPASS ITS OPERATIONS

The blade control handle is located on the upper handle of the mower. See figure 16. The blade control handle must be depressed in order to operate the unit. Release the blade control handle to stop the engine and blade.



WARNING

The blade will be rotating whenever the engine is running.

THROTTLE CONTROL

The throttle control is located on the left side of the upper handle. It is used to regulate the engine speed.



WARNING

The throttle control cannot be used to stop the engine.

DRIVE CLUTCH CONTROL

Squeezing the drive clutch control engages the drive mechanism to the rear wheels. Releasing the clutch control stops the rear wheels from driving. Release the drive clutch control to slow down when negotiating an obstacle, making a turn or stopping. See figure 16.

RECOIL STARTER

The recoil starter handle is attached to the handle. See figure 16. Stand behind the unit in the operating position to start the unit.

OPERATION



FIGURE 17.

Keep hands and feet away from the chute area on cutting deck. See figure 17.

NOTE

For shipping purposes your mower is set with the wheels in a low cutting height position. For best results raise the cutting position until it is determined which height is best for your lawn. See cutting height adjustment section.

GAS AND OIL FILL-UP

Service the engine with gasoline and oil as instructed in the separate engine manual packed with your mower. Read instructions carefully.

NOTE

Your unit has been shipped without oil; however, a small amount of oil may be present from the factory. Do not overfill.



Never fill fuel tank indoors, with engine running or until the engine has been allowed to cool for at least two minutes after running.

BEFORE STARTING

1. Attach spark plug wire to spark plug.
2. Before each use, check for proper drive clutch operation by performing the following before starting the engine:

With the drive clutch control released, push mower forward. It should move freely. **Pull mower backward. It should move freely.**

If it does not and the rear wheels tend to lock up, the clutch may not be releasing completely. Do not start the engine until corrections have been made. Check the control cable for severe bend, kinks and binding, or grass build-up in the pulley groove. Correct and adjust as required.

3. Set the desired cutting height. Refer to Adjustment Section.

TO START ENGINE AND ENGAGE BLADE



When starting the unit for the first time, face the mower against a solid object such as a wall, fence, etc. Start the unit, and if it shows any signs of motion with the drive clutch control disengaged, shut the engine off immediately. Check the position of the drive clutch control cable. The plastic fitting must be assembled in the first adjustment position inside the housing, all the way to the right, as shown in figure 7.

1. Move the throttle control lever to FAST or START position.
2. Prime engine as instructed in the separate engine manual packed with your unit.
3. Standing behind the unit, depress the blade control handle and hold it against the upper handle.
4. Grasp the recoil starter handle and pull back rapidly, extending rope fully. Return it slowly to the rope guide bolt.
5. After engine starts, move throttle control to FAST or desired engine speed.

NOTE

If any problems are encountered, refer to the Trouble Shooting Chart on page 17.



Never operate your unit without either the side chute deflector or entire top discharge chute and catcher panel assembly in place.

TO STOP ENGINE AND BLADE

1. Release the blade control handle to stop the engine and blade.



The blade continues to rotate for a few seconds after the engine is shut off.

2. Disconnect the spark plug wire and ground it against the engine to prevent accidental starting while equipment is unattended.

USING YOUR ROTARY MOWER



WARNING

DO NOT operate mower with the chute door open unless the complete grass catcher is properly mounted on the mower.

Be sure that lawn is clear of stones, sticks, wire, or other objects which could damage lawn mower or engine. Such objects could be accidentally thrown by the mower in any direction and cause serious personal injury to the operator and others.

Operate a new engine at intermediate speeds and light load for the first few hours as you would a new automotive engine.

For the best results, do not cut wet grass because it tends to stick to the underside of the mower, preventing proper discharge of grass clippings, and could cause you to slip and fall. New grass, thick grass or wet grass may require a narrower cut. Blade speed should be adjusted to the condition of the lawn.

When using the side discharge mower, the best mowing pattern is one that allows the clippings to discharge towards the uncut part of the lawn. This permits re-cutting of the clippings to further pulverize them. When cutting high weeds, discharge towards cut portion, then recut at right angles to first direction.

For best results, cut off one-third or less of the total length of the grass. Lawn should be cut in the tall as long as there is growth.

This mower is designed to be operated at full throttle to give you the best cut and do the most effective job of bagging the cut grass.

IMPORTANT

If you strike a foreign object, stop the engine. Remove wire from spark plug, thoroughly inspect the mower for any damage, and repair the damage before restarting and operating the mower. Extensive vibration of the mower during operation is an indication of damage. The unit should be promptly inspected and repaired.

ADJUSTMENTS



WARNING

Do not at any time make any adjustment to lawn mower without first stopping engine and disconnecting spark plug wire.

DRIVE CLUTCH CONTROL ADJUSTMENT

If the unit does not self-propel with the drive clutch control engaged, remove the plastic cap from beneath the drive clutch control housing. Move the plastic fitting on the control cable to the next adjustment position on the left. Reassemble the plastic cap and retest. See figure 18.

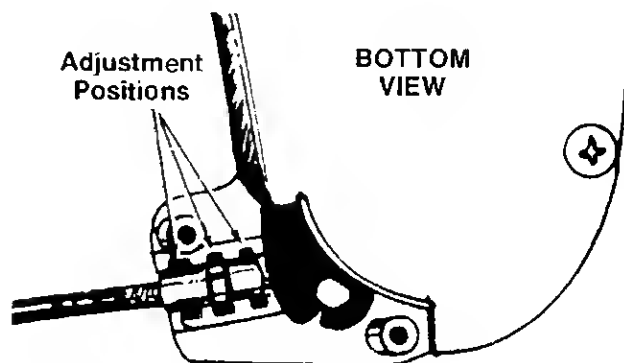


FIGURE 18.

CUTTING HEIGHT ADJUSTMENT

The height adjustment handle is located on the left side of the deck. The handle may be placed in one of nine cutting height positions. Push the handle to the left and then either forward to lower the cutting height or backward to raise the cutting height. See figure 19.

For rough or uneven lawns, move the height adjustment handle to a position which will give a higher cutting height.

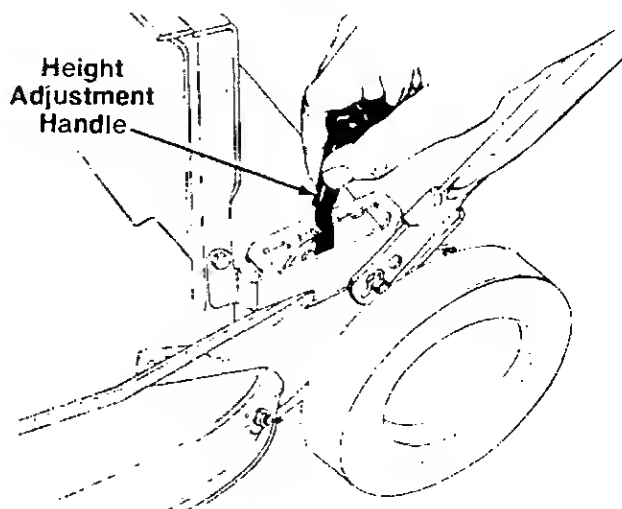


FIGURE 19.

THROTTLE

The throttle control wire assembly can be adjusted if necessary. Loosen the screw on the cable clamp closest to the control lever on engine. Adjust as instructed in step 4 of "Attaching the Throttle Control Cable" in Assembly Instructions.

CARBURETOR ADJUSTMENTS



WARNING

If any adjustments are made to the engine while the engine is running (e.g. carburetor), keep clear of all moving parts. Be careful of heated surfaces and muffler.

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude and load. Refer to the separate engine manual packed with your mower for carburetor adjustment information.

NOTE

A dirty air cleaner will cause an engine to run rough. Be certain air cleaner is clean and attached to the carburetor before adjusting carburetor. Refer to the separate engine manual.

LUBRICATION



WARNING

Always stop engine and disconnect spark plug wire before cleaning, lubricating or doing any kind of work on lawn mower.

Blade Control—Lubricate the pivot points on the blade control handle and the brake cable at least once a season with light oil. See figure 20. The blade control must operate freely in both directions.

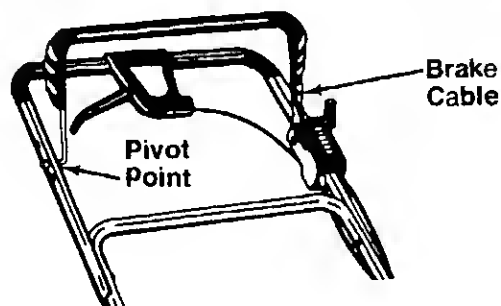


FIGURE 20.

Discharge Chute Door Mechanism—The torsion spring and pivot point should be lubricated periodically with light oil to prevent any rust or binding. Door must work freely.

Wheels—Mower is provided with ball bearing wheels. Lubricate at least once a season with light oil. Also, if the wheels are removed for any reason, lubricate the surface of the axle bolt and the inner surface of the wheel with light oil. A 4 oz. plastic bottle of light oil lubricant is available. Order part number 737-0170. Engine oil may also be used.

Engine—Follow engine manual for lubrication instructions.

Throttle—Periodically lubricate throttle control lever and throttle wire assembly with a few drops of light oil for ease of operation.

Transmission—The transmission is pre-lubricated and sealed at the factory. It does not require checking. If disassembled for any reason, fill with 2 ounces of Alvania grease, part number 737-0168.

MAINTENANCE

NOTE

When tipping the unit, empty the fuel tank and keep engine spark plug side up.

TROUBLE SHOOTING

Refer to page 17 of this manual for trouble shooting information.

CUTTING BLADE

A. Removal for Sharpening or Replacement



WARNING

Be sure to disconnect and ground the spark plug wire before working on the cutting blade to prevent accidental engine starting. Protect hands by using heavy gloves or a rag to grasp the cutting blade.

Remove the large bolt and lock washer which holds the blade and adapter to the engine crankshaft. Remove the blade and adapter from the crankshaft.

If the blade or blade adapter needs replacing, remove the two small bolts, lock washers and nuts which hold the blade to the adapter.



CAUTION

Periodically inspect the blade adapter for cracks, especially if you strike a foreign object. Replace when necessary.

B. Sharpening

Remove the cutting blade by following the directions of the preceding section.

When sharpening the blade, follow the original angle of grind as a guide. It is **extremely important** that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds, may cause damage to the mower and could break, causing personal injury.

It is recommended that the blade always be removed from the adapter for the best test of balance. The blade can be tested by balancing it on a round shaft screwdriver. Remove metal from the heavy side until it balances evenly.

C. Reassembly

Before reassembling the blade and the blade adapter to the unit, lubricate the engine crankshaft and the inner surface of the blade adapter with light oil. Lubricating the bolt holes, bolts and inner surface of the nuts with light oil is also recommended. A 4 oz. plastic bottle of light oil lubricant is available. Order part number 737-0170. Engine oil may also be used.

When replacing the blade, be sure to install the blade with the side of the blade marked "Bottom" (or with part number) facing the ground when the mower is in the operating position.

Blade Mounting Torque

3/8" Dia. Bolt 375 in. lb. min., 450 in. lb. max.

5/16" Dia. Bolt 150 in. lb. min., 250 in. lb. max.

To insure safe operation of your unit, all nuts and bolts must be checked periodically for correct tightness.

DECK

The underside of mower deck should be cleaned after each period of use as grass clippings, leaves, dirt and other matter will accumulate. This accumulation of grass clippings, etc., is undesirable as it will invite rust and corrosion and may cause an uneven discharge of grass clippings at the next cutting.

The deck may be cleaned by tilting the mower forward or on its side and scraping clean with a suitable tool or by washing with a stream of water from a garden hose.

NOTE

Do not direct the stream of water at a hot engine as damage to the engine may result.

ENGINE

Refer to the separate engine manual for all engine maintenance instructions.

Maintain **engine oil** as instructed in the separate engine manual packed with your unit. Read and follow instructions carefully.

Service **air cleaner** every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. Poor engine performance and flooding usually indicates that the air cleaner should be serviced. To service the air cleaner, refer to the separate engine manual packed with your unit.

The **spark plug** should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mowing season; check engine manual for correct plug type and gap specifications.

BELT REMOVAL AND REPLACEMENT

1. Disconnect the spark plug wire and ground it against the engine.
2. Drain the fuel tank or place a piece of plastic beneath the cap to prevent gasoline leakage.
3. Remove the transmission belt guard as follows. See figure 21.
 - A. Remove the three bolts on the left side of the catcher panel to loosen the catcher panel. A 3/8" and 7/16" wrench are required.
 - B. Remove two bolts which secure the transmission belt guard, using a 3/8" wrench.
 - C. Lift up on left side of catcher panel and remove the transmission belt guard.
4. Tip the mower on its side, and block securely.

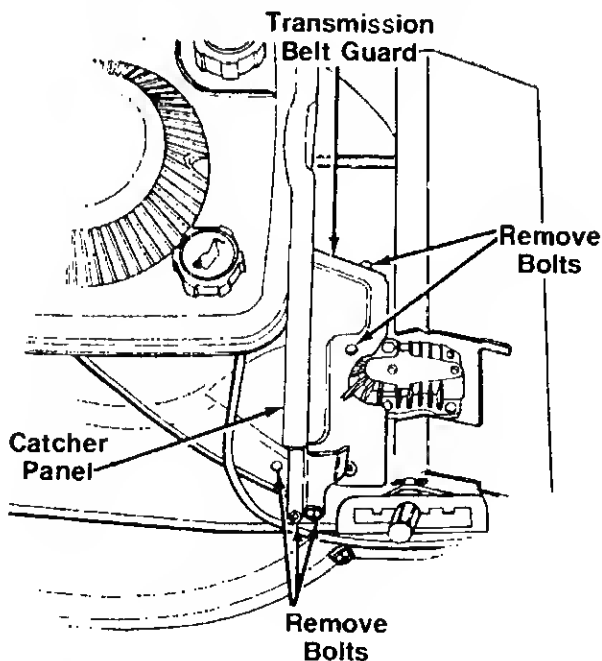


FIGURE 21.

5. Remove the center bolt which secures the blade to the crankshaft. See figure 22. Roll the belt off the pulley. Remove the blade (and blade adapter with pulley).
6. Remove the inside belt guard by removing two self-tapping screws. A 3/8" wrench is required. See figure 22.

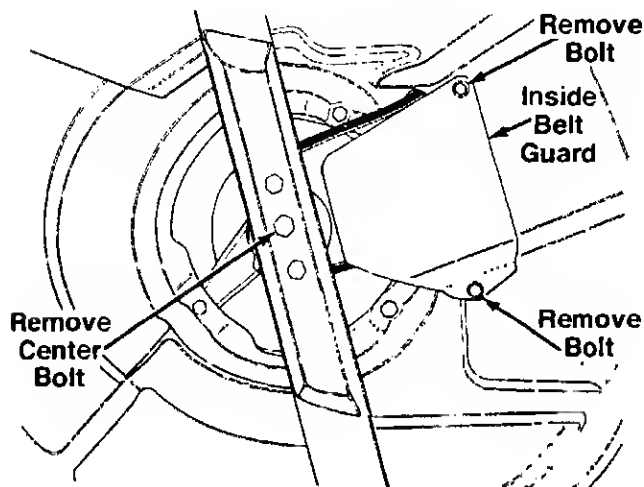


FIGURE 22.

7. Remove the belt from between the idler pulley and the belt guard on the idler pulley bracket. Refer to figure 24.
8. Remove the belt from the transmission pulley.
9. Assemble the new belt as follows.
 - A. Push the idler pulley up out of the way as shown in figure 23.
 - B. Slide the belt in from the rear of the deck, and place it around the transmission pulley. See figure 23.
 - C. Release the idler pulley so it falls down into position. Slide the belt in between the idler pulley and the belt guard on the idler pulley bracket as shown in figure 24.
 - D. Grease the crankshaft. Place belt around the pulley on the blade adapter, and reassemble the blade. Reassemble the inside belt guard.
 - E. Reassemble the transmission belt guard, following instructions in step 3 in reverse order.

NOTE

When reassembling the transmission belt guard, be certain it is approximately 1/8" away from the belt. Make certain to tighten all nuts and bolts securely. If plastic was placed under the gas cap, be certain to remove it.

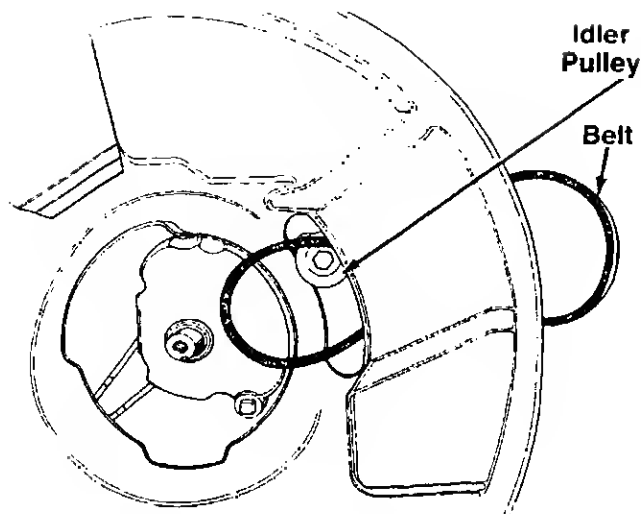


FIGURE 23.

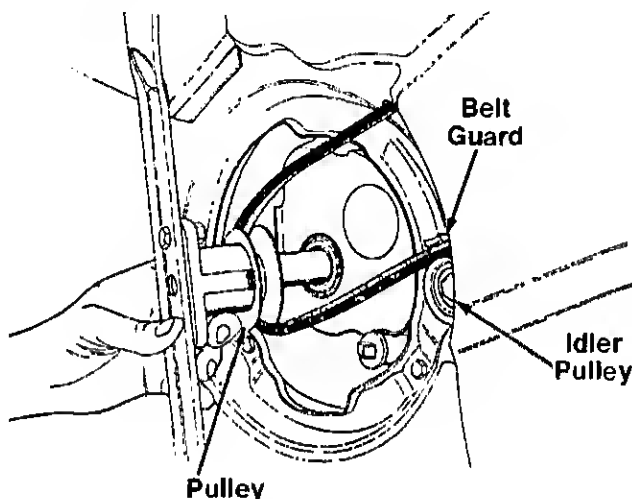


FIGURE 24.

OFF-SEASON STORAGE

The following steps should be taken to prepare lawn mower for storage.

1. Clean and lubricate mower thoroughly as described in the lubrication instructions.
2. Refer to engine manual for correct engine storage instructions.
3. Coat mower's cutting blade with chassis grease to prevent rusting.
4. Store mower in a dry, clean area.

NOTE

When storing any type of power equipment in an unventilated or metal storage shed, care should be taken to rustproof the equipment. Using a light oil or silicone, coat the equipment, especially cables and all moving parts.

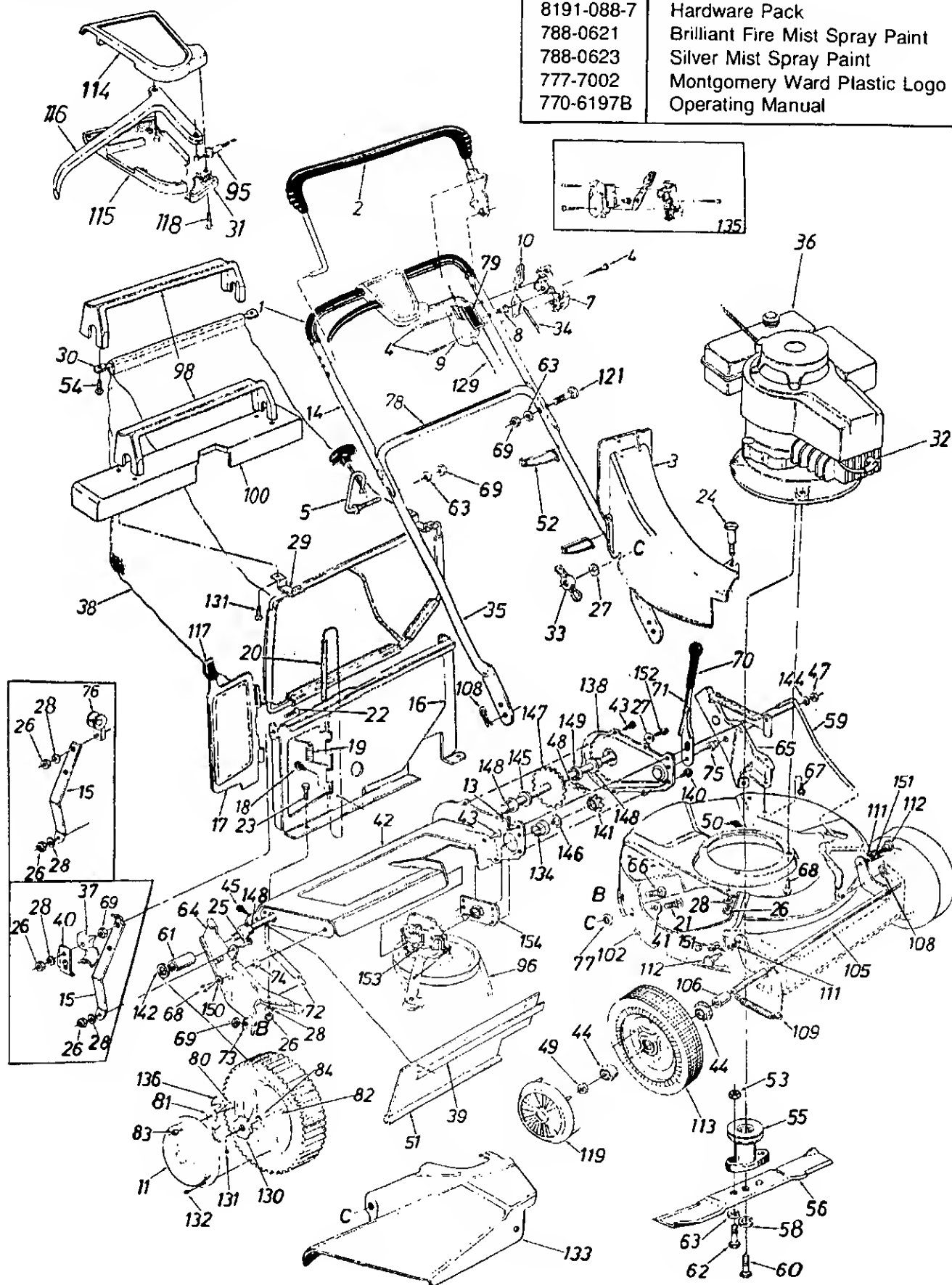
Trouble Shooting Chart

Problem	Cause	Remedy
1 Engine fails to start	<p>A Blade control handle disengaged</p> <p>B Check fuel tank for gas</p> <p>C Spark plug lead wire disconnected.</p> <p>D Throttle control lever not in the starting position</p> <p>E Faulty spark plug</p> <p>F Carburetor improperly adjusted, engine flooded</p> <p>G Old stale gasoline</p> <p>H Engine brake engaged</p>	<p>A Engage blade control handle.</p> <p>B Fill tank if empty.</p> <p>C Connect lead wire.</p> <p>D Move throttle lever to start position.</p> <p>E Clean, adjust gap or replace.</p> <p>F Remove spark plug, dry the plug, crank engine with plug removed, and throttle in off position. Replace spark plug and lead wire and resume starting procedures.</p> <p>G Drain and refill with fresh gasoline.</p> <p>H Follow starting procedure.</p>
2 Hard starting or loss of power	<p>A Spark plug wire loose</p> <p>B Carburetor improperly adjusted</p> <p>C Dirty air cleaner</p>	<p>A Connect and tighten spark plug wire.</p> <p>B Adjust carburetor. See separate engine manual.</p> <p>C Clean air cleaner as described in separate engine manual.</p>
3 Operation erratic	<p>A Dirt in gas tank</p> <p>B Dirty air cleaner</p> <p>C Water in fuel supply</p> <p>D Vent in gas cap plugged</p> <p>E Carburetor improperly adjusted</p>	<p>A Remove the dirt and fill tank with fresh gas.</p> <p>B Clean air cleaner as described in separate engine manual.</p> <p>C Drain contaminated fuel and fill tank with fresh gas.</p> <p>D Clear vent or replace gas cap.</p> <p>E Adjust carburetor. See separate engine manual.</p>
4 Occasional skip (hesitates) at high speed	<p>A Carburetor idle speed too slow</p> <p>B Spark plug gap too close</p> <p>C Carburetor idle mixture adjustment improperly set</p>	<p>A Adjust carburetor. See separate engine manual.</p> <p>B Adjust to .030".</p> <p>C Adjust carburetor. See separate engine manual.</p>
5 Idles poorly	<p>A Spark plug fouled, faulty, or gap too wide</p> <p>B Carburetor improperly adjusted</p> <p>C Dirty air cleaner</p>	<p>A Reset gap to .030" or replace spark plug.</p> <p>B Adjust carburetor. See separate engine manual.</p> <p>C Clean air cleaner as described in separate engine manual.</p>
6 Engine overheats	<p>A Carburetor not adjusted properly</p> <p>B Air flow restricted</p> <p>C Engine oil level low</p>	<p>A Adjust carburetor. See separate engine manual.</p> <p>B Remove blower housing and clean as described in separate engine manual.</p> <p>C Fill crankcase with the proper oil.</p>
7 Excessive vibration	<p>A Cutting blade loose or unbalanced</p> <p>B Bent cutting blade</p>	<p>A Tighten blade and adapter. Balance blade.</p> <p>B Replace blade.</p>

Note: For repairs beyond the minor adjustments listed above, contact your local authorized service dealer.

TMO-37448A

Part No.	Description
8191-088-7	Hardware Pack
788-0621	Brilliant Fire Mist Spray Paint
788-0623	Silver Mist Spray Paint
777-7002	Montgomery Ward Plastic Logo
770-6197B	Operating Manual



TMO-37448A

3.5 H.P. 21" ROTARY MOWER PARTS LIST FOR MODEL TMO-37448A

REF. NO.	PART NO.	DESCRIPTION	NEW PART	REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	718-0144	Grip		55	756-0511	Blade Adapter w/Pulley	N
2	731-0611	Control Handle Ass'y.—L.H.		56	742-0307	21" Blade	N
3	731-0734	Top Discharge Chute Ass'y		58	736-0356	Bell-Wash. .39" I.D. x 1.380" O.D.	
4	710-0796	Truss Mach. Scr. #12 x 1.50" Lg.		59	747-0510	Height Adj. Rod 19.42" Lg.	
5	710-0842	Rope Guide Bolt		60	710-0331	Hex Bolt 3/8-24 x 2.25" Lg. (Grade 5)	
7	731-0817	Control Panel Half		61	748-0190	Spacer .513" I.D. x .703" O.D. x .69" Lg.	
8	731-0524	Control Disc Pin		62	710-0888	Hex Bolt 5/16-24 x 1.00" Lg. (Grade 5)	
9	731-0816	Clutch Panel Half		63	736-0119	L-Wash. 5/16" I.D.*	
10	731-0528	Throttle Control Lever		64	16136	R.H. Handle Wheel Brkt. Ass'y.	
11	10647	Hub Cap (Rear)		65	16137	L.H. Handle Wheel Brkt. Ass'y.	
13	714-0507	Cotter Pin 3/32" Dia. x .75" *		66	710-0260	Carriage Bolt 5/16-18 x .62" *	
14	749-0437	Upper Handle—Chrome		67	710-0603	Hex Wash. Hd. B-Tap Scr. 5/16-18	
15	16541	Panel Support Brkt.—		68	710-0654	Hex Wash. Hd. TT-Tap Scr. 3/8-16	
	16129	Panel Support Brkt.—†		69	712-0267	Hex Nut 5/16-18 Thd.*	
16	16140	Top Catcher Panel		70	720-0143	Grip	
17	16145	Top Door		71	732-0473	Height Adj. Lever	
18	710-0429	Hex B-Tap Scr. #10 x .38"		72	732-0481	Extension Spring .50" O.D. x 3.80" Lg.	
19	732-0483	Torsion Spring		73	736-0242	Bell-Wash. 5/16" I.D.	
20	747-0514	Pivot Pin		74	750-0526	Spacer .385" I.D. x .502" O.D. x .270" Lg.	
21	710-0134	Carriage Bolt 1/4-20 x .62" *		75	750-0624	Shld. Spacer .500" Dia. x .100	
22	710-0225	Truss Mach. Scr. 1/4-20 x 3/4" Lg.		76	719-0279	Rope Guide	N
23	710-0289	Hex Bolt 1/4-20 x .50" Lg.*		77	726-0233	Bolt Retainer 1/4 x .50" O.D.	
24	738-0704	Shoulder Bolt .312 Dia. x .18 Lg. Special		78	777-5776	Instruction Label	
25	710-0258	Hex Bolt 1/4-20 x .62" Lg.*		79	777-5774	Control Label	
26	712-0287	Hex Nut 1/4-20 Thd.*		80	738-0137	Shld. Scr. .342" Dia. x .268	
27	736-0270	Bell-Wash. 1/4" I.D.		81	748-0188	Pawl	
28	736-0329	L-Wash. 1/4" I.D.*		82	734-1411	Wheel Ass'y. Comp.—Rear 8 x 1.75	
29	16538	Front Grass Catcher Frame		83	712-0324	Hex Ins. L-Nut 1/4-20 Thd.	
30	747-0526	Grass Catcher Handle		84	741-0180	Flange Ball Bearing 1/2" I.D.	
31	731-0619	S.P. Control Cover		95	746-0650	S.P. Cable x 50" Lg.	N
32	735-0639	Spark Plug Insulator		96	754-0343	"V"-Belt	N
33	712-0109	Wing Nut		98	731-0802	Bag Handle	
34	746-0633	Throttle Control Wire 58"		100	731-0808	Catcher Frame Cover	
35	749-0505	Lower Handle—Chrome		102	17075CC621	21" Deck Ass'y.	
36	3.5 H.P.	Engine—Tec. TVM 100		105	10662	Front Axle Ass'y.	
37	751-0434	Rope Guide Half		106	711-0313	Sleeve .526" I.D. x .690" O.D. x .880" Lg.	
38	764-0216	21" Top Discharge Grass Bag		108	714-0104	Intern. Cotter Pin 5/16" Dia.	
39	14835	Retaining Strip		109	732-0482	Extension Spring .50" O.D. x 3.20" Lg.	
40	732-0528	Rope Retainer Spring Clip		111	736-0221	Intern. L-Wash. 3/8 I.D.*	
41	736-0204	Fl-Wash. .344" I.D. x .62"		112	738-0705	Shld. Bolt .623" Dia. x .425	
42	17055CC621	Chain—Axle Ass'y.	N	113	734-0922	Front-Wheel Ass'y Comp. 7 x 1.50	
43	710-0352	Hex B-Tap Scr. 1/4" x .38" Lg.		114	731-0617	Self-Propelled Control Cover	
44	741-0180	Flange Ball Bearing 1/2" I.D.		115	731-0618	Self-Propelled Control Cover	
45	710-0776	Hex AB-Tap Scr. 1/4 x .62"					
47	712-0296	Hex Patch L-Nut 3/8-24 Thd.					
48	713-0353	#48 Chain .500" Pitch x .30 Links					
49	712-0346	Hex L-Nut 1/2-20 Thd					
50	731-0564	Plug					
51	731-0672	Rear Flap 3.75" x 17.30" Lg					
52	726-0240	Cable Tie					
53	712-0123	Hex Nut 5/16-24 Thd *					
54	710-0969	Truss Mach. Tap Scr. 1" Lg.					

TMO-37448A

3.5 H.P. 21" ROTARY MOWER PARTS LIST FOR MODEL TMO-37448A (CONTINUED)

REF. NO.	PART NO.	DESCRIPTION	NEW PART	REF. NO.	PART NO.	DESCRIPTION	NEW PART
116	731-0620	Control Lever		142	736-0326	FI-Wash. .510" I.D. x 1.0" O.D.	
117	720-0208	Door Grip		144	736-0300	FI-Wash. .385" I.D. x .87" O.D.	
118	710-0841	Fl-"C"-Sunk Hd. Tap Scr. #10 x .75" Lg.		145	736-0326	FI-Wash. .51" I.D. x 1.0" O.D.	
119	731-0355	Hub Cap—Plastic		146	736-0336	FI-Wash. 3/8" I.D.	
121	710-0671	Curved Carr. Bolt 5/16-18 x 1.38" Lg.		147	738-0719	Rear Shaft Ass'y. 21.94" Lg.	N
129	746-0477	Control Cable—43" Lg.		148	741-0324	Hex Flange Bearing .506" I.D. Plastic	
130	748-0318	Ratchet Wheel 1.62" O.D.		149	736-0160	FI-Wash. .531" I.D. x .930" O.D.	
131	714-0115	Cotter Pin 1/8" Dia. x 1.00" Lg.*		150	736-0179	FI-Wash. .531" I.D. x 1.25" O.D.	
132	710-0748	Pan Hd. Tap Scr. #12 x .50" Lg.	N	151	741-0491	Flanged Nyliner Brg.	
133	16559CC621	Side Chute Deflector Ass'y.		152	710-0751	Hex Bolt 1/4-20 x .62" Lg. (Grade 5)	
134	748-0249	Flange Bearing		153	717-0417	Transmission Comp. (See Breakdown)	
135	753-0360	Kit—Control Housing Comp.		154	16500	Hex Bearing Cup	
136	10622	Spring—Nylon					
138	17053	Chain Cover					
140	710-0599	Hex Wash. S-Tap Scr. 1/4-20 x .50" Lg.					
141	713-0400	Sprocket—Shaft Ass'y.					

†Used with Ref. Nos. 37 and 40.

††Used with Ref. No. 76.

*Common Hardware—May be purchased locally.

IMPORTANT: DO NOT order parts by reference number (Ref. No.).

NOTE: Specifications subject to change without notice or obligation.

➡ NOTE

The use of any accessory on this Rotary Mower other than those manufactured by the mower manufacturer is **not** recommended.

GRASS CATCHER Model 190-070-000 is available as replacement equipment for the mower shown in this manual.



WARNING

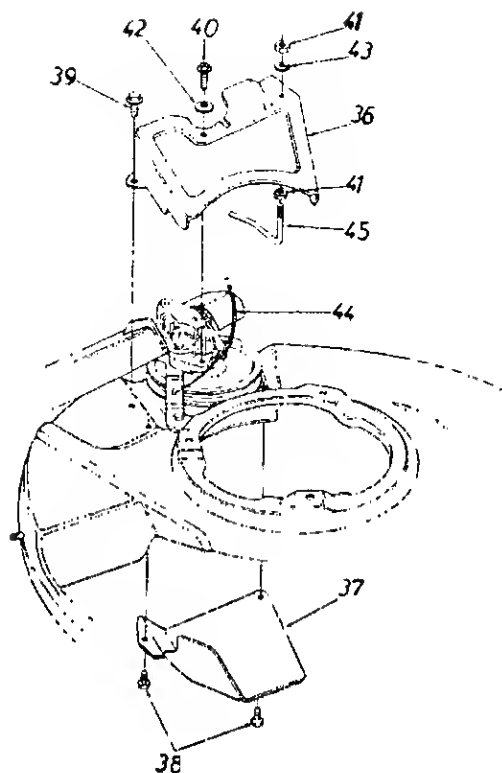
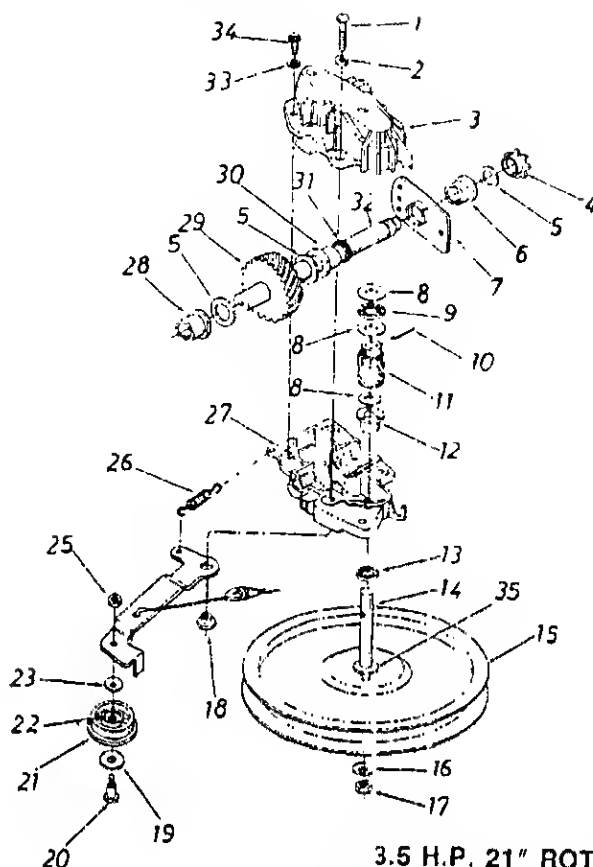
1. DO NOT operate the mower with the chute door open unless the complete grass catcher is properly mounted on the mower.
2. DO NOT operate the mower without the protective shield on the rear of the deck in place.

➡ NOTE

Under normal usage bag material is subject to wear and should be checked periodically. Be sure any replacement bag complies with the mower manufacturer's recommendations.

For replacement bags, use only factory authorized replacement bag No. 764-0216.

TMO-37448A



3.5 H.P. 21" ROTARY MOWER
PARTS LIST FOR MODEL TMO-37448A

REF. NO.	PART NO.	DESCRIPTION	NEW PART	REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	710-0106	Hex Bolt 1/4-20 x 1.25" Lg.		22	741-0482	Needle Brg. .375" x .31"	
2	736-0329	L-Wash. 1/4" I.D.		23	736-0270	Bell-Wash. .265" I.D. x .75"	
3	717-0418	Upper Hsg. Half		24	17052	Idler Brk't. Ass'y.	N
4	713-0400	#48 Sprocket 7 Tooth x 1/2 Pitch		25	712-0138	Hex Patch L-Nut 1/4-28 Thd.	
5	736-0336	Fl-Wash. 5/8" I.D. x .030		26	732-0357	Extension Spring 1.12" Lg.	
6	741-0413	Hex Flange Brg. .631" I.D.		27	717-0419	Lower Hsg. Half	
7	16500	Hex Bearing Cup		28	741-0415	Flange Bearing .566 Dia.	
8	736-0314	Thrust Wash. .382" I.D. x .70" O.D.		29	717-0422	33 Tooth Helical Gear	
9	741-0479	Thrust Bearing .375" I.D. x .812" O.D.		30	741-0414	Flange Bearing .629 Dia.	
10	715-0152	Spring Pin Spir. 1/8" x .62" Heavy		31	721-0213	Oil Seal .625 Dia.	
11	717-0420	11 Tooth Helical Gear		32	738-0607	Gear Sprocket Shaft	
12	748-0208	Flange Bearing		33	736-0722	L-Wash. #10 I.D.	
13	721-0212	Oil Seal		34	710-0436	Hex B-Tap Scr. #10 x .62"	
14	738-0708	Pulley-Transmission Shaft		35	736-0410	Hex Washer .26" x .88"	N
15	756-0330	Fl-Pulley 5.06" O.D.		36	17058	Transmission Belt Guard	N
16	736-0270	Bell-Wash. .265" I.D. x .75"		37	17064	Belt Cover	N
17	712-0138	Hex L-Nut 1/4-28 Thd.		38	710-0352	Hex B-Tap Scr. 1/4 x .38" Lg.	
18	738-0440	Shld. Spacer .375" Dia. x .170"		39	710-0599	Hex AB-Tap Scr. 1/4 x .50" Lg.	
19	736-0344	Fl-Wash. .390" I.D. x 1.0"		40	710-0896	Hex B-Tap Scr. 1/4 x .62" Lg.	
20	738-0691	Shld. Bolt .375" Dia. x .40"		41	712-0287	Hex Nut 1/4-20 Thd.	
21	756-0447	Fl-Idler Plastic 1.50" Dia.		42	736-0270	Bell-Wash. .265" I.D. x .75"	
				43	736-0329	L-Wash. 1/4" I.D.	
				44	746-0650	S.P. Cable—50" Lg.	N
				45	747-0549	S.P. Belt Guard	N
					717-0417	Transmission Comp.	

†Not Part of Transmission Complete

SERVICE NATIONWIDE

Montgomery Ward

**HOW TO OBTAIN
REPLACEMENT PARTS AND SERVICE**

The merchandise you have purchased from us has been carefully engineered and manufactured under Montgomery Ward's rigid quality standards and should give you satisfactory and dependable operation. However, like all mechanical merchandise, it may occasionally require adjustment, replacement parts or maintenance.

Toll Free Parts Sales Center

When you need a replacement part or accessory for a major appliance, home electronic item or lawn and garden product that is not under warranty or covered by a service contract or if you need the location of the nearest service facility, call our Parts Sales Center toll free 1-800-323-1965.

Provide the following:

1. Model, serial number and all of the other data shown on the model plate.
2. Also give the part number or numbers as shown in the parts list that came with the product.

Replacement Parts will be made available at current prices. If requested, prices will be quoted in advance when not listed.

If you order parts by mail, you will pay the transportation charges from the shipping point.

UNIT MODEL NO. _____

UNIT SERIAL NO. _____

ENGINE MODEL NO. _____

TYPE NO. _____

CODE NO. _____